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ATTORNEY DOCKET NO. 10020919-1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Laurence Ray McColloch; Brenton Arthur Baugh

Serial No.: 10/603,714

Examiner: Chandrika Prasad

Filing Date: June 25, 2003

Group Art Unit: 2839

Title: A CONNECTION CABLE THAT HAS AN INTEGRATED ELECTRICAL CONNECTOR PERMANENTLY FIXED TO AN OPTICAL CABLE (Amended)

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith in ***triplicate*** is the Appeal Brief in this application with respect to the Notice of Appeal filed on October 29, 2004.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) **$340.00**.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)(1)-(5)) for the total number of months checked below:

☐	one month	$ 110.00
☐	two months	$ 430.00
☐	three months	$ 980.00
☐	four months	$1530.00

☐ The extension fee has already been filled in this application.

☒ (b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **50-1078** the sum of **$ 340**. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-1078** pursuant to 37 CFR 1.25.

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☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Signature: Doug L Weller

Respectfully submitted,
Laurence Ray McColloch;Brenton Arthur Baugh

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PATENT APPLICATION
ATTORNEY DOCKET NO. 10020919-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTOR(S): Laurence Ray McColloch; Brenton Arthur Baugh

CONFIRMATION NO: 3452

SERIAL NO: 10/603,714 **GROUP ART UNIT:** 2839

FILED: June 25, 2003 **EXAMINER:** Chandrika Prasad

SUBJECT: A CONNECTION CABLE THAT HAS AN INTEGRATED ELECTRICAL CONNECTOR PERMANENTLY FIXED TO AN OPTICAL CABLE (Amended)

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

SIR:

APPEAL BRIEF

Appellant herein sets forth his reasons and arguments for appealing the Examiner's final rejection of claims in the above-identified case.

REAL PARTY IN INTEREST

This Patent Application has been assigned to Agilent Technologies, Inc., which has been incorporated in the State of Delaware.

RELATED APPEALS AND INTERFERENCES

Appellant is aware of no related appeals or interferences.

STATUS OF CLAIMS

Claims 1 through 20 are extant in the case.

Claims 1 through 20 are rejected.

The appealed claims are claims 1 through 20.

STATUS OF AMENDMENTS

After the final rejection, Appellant filed a Response to Office Action dated August 11, 2004. In the Response to Office Action, no amendments were made to the claims.

SUMMARY OF THE INVENTION

The present invention sets out an optical cable with an integrated electrical connector.

Specifically, a connection cable includes an optical cable (11) and an integrated electrical connector (101). See Figure 1 and the Specification at page 3, lines 11 through 16. The integrated electrical connector (101) is permanently fixed to the optical cable (11). The integrated electrical connector (101) is for plug-in connection to a matching electrical connector (32) on a target device (30). See Figure 4, Figure 5 and the Specification at page 5, lines 7 through 15. Data transmission through the optical cable (11) uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector

(101) and the matching electrical connector (32). See the Specification at page 4, lines 5 through 12.

ISSUES PRESENTED FOR REVIEW

The following issue is presented for review:

(1) whether under 35 U.S.C. § 112, first paragraph, the specification describes the subject matter defined by claims 1 through 20.

(2) whether under 35 U.S.C. § 102 claims 1 through 20 are anticipated by US 2002/0159725A1 (*Bucklen*).

GROUPING OF CLAIMS

The claims 1 through 20 do not stand or fall together. The claims 1 through 20 are divided into 3 groups. The first group contains claims 1 through 7. The second group contains claims 8 through 14. The third group contains claims 15 through 20.

In the argument section below, Appellant points out why the claims of each group are separately patentable. In short, each of the claim groups includes at least one independent claim. Each of the independent claims sets out subject matter that is not disclosed or suggested by the cited art. The independent claims in each grouping of claims set out a different combination of elements than the independent claims in each of the other groups. Each group of claims is therefore separately patentable over the cited prior art.

ARGUMENT

A. Discussion of Errors in Rejection of the Claims under 35 U.S.C. § 112

The Examiner has rejected claims 1 through 20 under 35 U.S.C. § 112, first paragraph. Specifically, the Examiner has asserted that the use of different protocols through the cable and the connector has not been described in the specification. See the Office Action dated June 22, 2004 at page 2.

The pertinent limitation, set out in claim 1 states the following: "data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector". The other independent claims include similar language, so claim 1 is discussed as a representative of all the claims of the case.

The Examiner's assertion that the above-described limitation of claim 1 is not described in the Specification is clearly erroneous. The specification very specifically and clearly describes data transmission through an optical cable using a protocol that is different than a protocol used for data transmission between an integrated electrical connector and a matching electrical connector.

For example, data transmission through an optical cable is illustrated as data transmission through optical cable 11 (shown in Figure 1). The Specification at page 4, lines 5 through 7 indicates that synchronous optical network (Sonet), optical fibre channel, Ethernet, or another optical protocol is used for propagating signals within cable 11.

Data transmission between an integrated electrical connector and a matching electrical connector is illustrated in Figure 4 and Figure 5 as data transmission between integrated electrical connector 101 and an electrical connector 32 on PCB 15 (shown in Figure 4) of a target device. The Specification indicates that integrated electrical connector 101 is compatible with a connector standard such as universal serial bus (USB), USB 2, IEEE 1394 (Firewire), Firewire 800, Ethernet, Enterprise Systems Connection (ESCON), Infiniband, a proprietary system interconnection, or another connector standard. See, for example, the Specification at page 4, lines 7 through 12.

Thus the Specification makes it clear that while transmission through optical cable 11 is compatible with an optical protocol, transmission between integrated electrical connector 101 and electrical connector 32 may be compatible with a standard protocol used for electrical connections, such as USB, USB 2, IEEE 1394 (Firewire), Firewire 800, etc.

A person of ordinary skill in the art would recognize that Applicant is very specifically teaching use of an optical protocol for use propagating signals through an optical cable while presenting an electrical connector that is compatible with a standard protocol used for electrical connections, such as USB, USB 2, IEEE 1394 (Firewire), Firewire 800, etc.

The above-described use of presenting an electrical interface compatible with a standard electrical connection protocol while using an optical protocol for data transmission is thus very clearly taught by Applicant's Specification. Further, this teaching of data transmission through the optical cable using a

protocol that is different than a protocol used for data transmission between an integrated electrical connector and a matching electrical connector is subject matter not disclosed or suggested by the art cited by the Examiner.

B. Overview of Errors in the Rejection of the Claims under 35 U.S.C. 102.

The criteria for a rejection under 35 U.S.C. § 102(b) has been clearly defined by the courts and confirmed by the U.S. Patent and Trademark Office. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has failed to show that each and every element set forth in the claims is found either expressly or inherently in *Bucklen*. Based on this, Applicant is traversing the rejections of the claims.

Below, Applicant clearly and unambiguously points out subject matter within each independent claim that is not disclosed by *Bucklen*. On the basis of this, Applicant believes all the claims are patentable over *Bucklen*.

C. Discussion of Group 1 claims (claims 1 through 7)

Independent claim 1 sets out a connection cable comprising an integrated electrical connector permanently fixed to an optical cable. Data transmission

through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector. This is not disclosed or suggested by *Bucklen*.

In *Bucklen*, electrical signals are directly translated into optical signals and optical signals are directly translated into electrical signals. See Figure 3 of *Bucklen*. There is no change in protocol between electrical signals and optical signals. There is no circuitry included in *Bucklen* that would be able to make such a protocol change. *Bucklen* merely discloses an electrically-terminated, optically-coupled communications cable. Nothing in *Bucklen* discloses or suggests data transmission through an optical cable using a protocol that is different than a protocol used for data transmission between an integrated electrical connector and a matching electrical connector, as in claim 1 of the present case.

The Examiner has stated: "The data transmission protocol through the cable is through transmission of optical signals wherein the data transmission between the connectors include electrical signal which uses a protocol different than that of optical signal transmission through the cable." This is an incorrect reading of *Bucklen*.

Bucklen includes no discussion of protocol. *Bucklen* merely discloses and discusses hardware implementation. In the hardware implementation shown by *Bucklen* it would be impossible to utilize different protocols for optical transmission than for electrical connection. This is specifically seen by studying Figure 3 of *Bucklen*.

Figure 3, of *Bucklen* shows electrical signals being directly turned into optical signals. Specifically, in Figure 3, hard-wired semiconductor lasers 32 change electrical signals directly into optical signals.

Also, Figure 3, of *Bucklen* shows optical signals being directly turned into electrical signals. Specifically, in Figure 3, optical signals are directly turned into electrical signals through the use of hard-wired photodiodes 34.

Because of the hardware connections disclosed in Figure 3 of *Bucklen*, there has to be a one-to-one correspondence between every electrical signal and every optical signal. Thus, it would be impossible, given the hardware connections disclosed by *Bucklen* in Figure 3, for the electrically terminated cables disclosed by *Bucklen* to utilize different protocols for optical transmission than for electrical connection.

D. Discussion of Group 2 claims (claims 8 through 14)

Independent claim 8 sets out a method for constructing a connection cable in which an integrated electrical connector is permanently fixed to an optical cable. Data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector. This is not disclosed or suggested by *Bucklen*.

As discussed above, in *Bucklen*, electrical signals are directly translated into optical signals and optical signals are directly translated into electrical signals. See Figure 3 of *Bucklen*. There is no change in protocol between

electrical signals and optical signals. There is no circuitry included in *Bucklen* that would be able to make such a protocol change. *Bucklen* merely discloses an electrically-terminated, optically-coupled communications cable. Nothing in *Bucklen* discloses or suggests data transmission through an optical cable using a protocol that is different than a protocol used for data transmission between an integrated electrical connector and a matching electrical connector, as in claim 8 of the present case.

Specifically, as discussed above, in the hardware implementation disclosed by *Bucklen* it would be impossible to utilize different protocols for optical transmission than for electrical connection. This is specifically seen by studying Figure 3 of *Bucklen*.

Figure 3, of *Bucklen* shows electrical signals being directly turned into optical signals. Specifically, in Figure 3, hard-wired semiconductor lasers 32 change electrical signals directly into optical signals.

Also, Figure 3, of *Bucklen* shows optical signals being directly turned into electrical signals. Specifically, in Figure 3, optical signals are directly turned into electrical signals through the use of hard-wired photodiodes 34.

Because of the hardware connections disclosed in Figure 3 of *Bucklen*, there has to be a one-to-one correspondence between every electrical signal and every optical signal. Thus, it would be impossible, given the hardware connections disclosed by *Bucklen* in Figure 3, for the electrically terminated cables disclosed by *Bucklen* to utilize different protocols for optical transmission than for electrical connection.

E. Discussion of Group 3 claims (claims 15 through 20)

Independent claim 15 sets out a method for connecting two target devices that comprises plugging a first integrated electrical connector permanently affixed to an optical cable into a matching electrical connector of a first target device, and comprises plugging a second integrated electrical connector permanently affixed to the optical cable into a matching electrical connector of a second target device. Data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector. This is not disclosed or suggested by *Bucklen*.

As discussed above, in *Bucklen*, electrical signals are directly translated into optical signals and optical signals are directly translated into electrical signals. See Figure 1 of *Bucklen*. There is no change in protocol between electrical signals and optical signals. There is no circuitry included in *Bucklen* that would be able to make such a protocol change. *Bucklen* merely discloses an electrically-terminated, optically-coupled communications cable. Nothing in *Bucklen* discloses or suggests data transmission through an optical cable using a protocol that is different than a protocol used for data transmission between an integrated electrical connector and a matching electrical connector, as in claim 15 of the present case.

Specifically, as discussed above, in the hardware implementation disclosed by *Bucklen* it would be impossible to utilize different protocols for

optical transmission than for electrical connection. This is specifically seen by studying Figure 3 of *Bucklen*.

Figure 3, of *Bucklen* shows electrical signals being directly turned into optical signals. Specifically, in Figure 3, hard-wired semiconductor lasers 32 change electrical signals directly into optical signals.

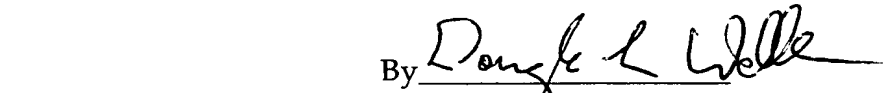
Also, Figure 3, of *Bucklen* shows optical signals being directly turned into electrical signals. Specifically, in Figure 3, optical signals are directly turned into electrical signals through the use of hard-wired photodiodes 34.

Because of the hardware connections disclosed in Figure 3 of *Bucklen*, there has to be a one-to-one correspondence between every electrical signal and every optical signal. Thus, it would be impossible, given the hardware connections disclosed by *Bucklen* in Figure 3, for the electrically terminated cables disclosed by *Bucklen* to utilize different protocols for optical transmission than for electrical connection.

CONCLUSION

For all the reasons discussed above, Appellant believes the rejection of the claims was in error and respectfully requests that the rejection be reversed.

Respectfully submitted,
LAURENCE RAY MCCOLLOCH
BRENTON ARTHUR BAUGH

By 
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Appendix: Appealed Claims

1. (Previously Presented) A connection cable comprising:

an optical cable; and,

an integrated electrical connector permanently fixed to the optical cable, the integrated electrical connector being for plug-in connection to a matching electrical connector on a target device;

wherein data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector.

2. (Original) A connection cable as in claim 1 additionally comprising:

a second integrated electrical connector permanently fixed to the optical cable, the second integrated electrical connector being for plug-in connection to a matching electrical connector on a second target device.

3. (Original) A connection cable as in claim 1 wherein the optical cable consists of a single optical fiber.

4. (Original) A connection cable as in claim 1 wherein the optical cable consists of multiple optical fibers.

5. (Original) A connection cable as in claim 1 wherein data transmission through the optical cable is at least one of the following:

digital data transmission;

analog data transmission.

6. (Original) A connection cable as in claim 1 wherein the matching electrical connector is compatible with at least on of the following protocols:

universal serial bus (USB) protocol;

USB 2;

IEEE 1394 (Firewire);

Firewire 800;

Ethernet;

Enterprise Systems Connection (ESCON);

Infiniband;

a proprietary system interconnection.

7. (Original) A connection cable as in claim 1 wherein data transmission through the optical cable is compatible with at least one of the following:

synchronous optical network (Sonet) protocol;

optical fibre channel protocol;

Ethernet protocol.

8. (Previously Presented) A method for constructing a connection cable comprising the following step:

permanently fixing an integrated electrical connector to an optical cable, the integrated electrical connector being for plug-in connection to a matching electrical connector on a target device;

wherein data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector.

9. (Original) A method as in claim 8 additionally comprising the following step:

permanently fixing a second integrated electrical connector to the optical cable, the second integrated electrical connector being for plug-in connection to a matching electrical connector on a second target device.

10. (Original) A method as in claim 8 wherein the optical cable consists of a single optical fiber.

11. (Original) A method as in claim 8 wherein the optical cable consists of multiple optical fibers.

12. (Original) A method as in claim 8 wherein data transmission through the optical cable is at least one of the following:

digital data transmission;

analog data transmission.

13. (Original) A method as in claim 8 wherein the matching electrical connector is compatible with at least on of the following protocols:

universal serial bus (USB) protocol;

USB 2;

IEEE 1394 (Firewire);

Firewire 800;

Ethernet;

Enterprise Systems Connection (ESCON);

Infiniband;

a proprietary system interconnection.

14. (Original) A method as in claim 8 wherein data transmission through the optical cable is compatible with at least one of the following:

synchronous optical network (Sonet) protocol;

optical fibre channel protocol;

Ethernet protocol.

15. (Previously Presented) A method for connecting two target devices comprising the following steps:

plugging a first integrated electrical connector permanently affixed to an optical cable into a matching electrical connector of a first target device; and,

plugging a second integrated electrical connector permanently affixed to the optical cable into a matching electrical connector of a second target device;

wherein data transmission through the optical cable uses a protocol that is different than a protocol used for data transmission between the integrated electrical connector and the matching electrical connector.

16. (Original) A method as in claim 15 wherein the optical cable consists of a single optical fiber.

17. (Original) A method as in claim 15 wherein the optical cable consists of multiple optical fibers.

18. (Original) A method as in claim 15 wherein data transmission through the optical cable is at least one of the following:

digital data transmission;

analog data transmission.

19. (Original) A method as in claim 15 wherein the matching electrical connector is compatible with at least on of the following protocols:

universal serial bus (USB) protocol;

USB 2;

IEEE 1394 (Firewire);

Firewire 800;

Ethernet;

Enterprise Systems Connection (ESCON);

Infiniband;

a proprietary system interconnection.

20. (Original) A method as in claim 15 wherein data transmission through the optical cable is compatible with at least one of the following:

synchronous optical network (Sonet) protocol;

optical fibre channel protocol;

Ethernet protocol.